

Title (en)

OPTICAL WAVEGUIDING STRUCTURE COMPRISING A PHOTONIC CRYSTAL NANOSTRUCTURE

Title (de)

OPTISCHE WELLENLEITERSTRUKTUR BESTEHEND AUS EINER PHOTONISCHEN KRISTALL-NANOSTRUKTUR

Title (fr)

STRUCTURE DE GUIDE D'ONDE OPTIQUE COMPRENANT UNE NANOSTRUCTURE À CRISTAL PHOTONIQUE

Publication

**EP 3776937 B1 20231122 (EN)**

Application

**EP 19716709 A 20190327**

Priority

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- US 2019024160 W 20190327

Abstract (en)

[origin: US10345519B1] An integrated optical beam steering system includes a photonic crystal nanostructure having a plurality of nanoelements, an input surface to receive light from an imager, and a concave output surface which maintains a desired field of view with suitable coupling efficiency. Parameters of the nanoelements are configured to give rise to a photonic bandgap for a predetermined range of wavelengths. Waveguides are disposed in the nanostructure which comprise negative space formed by the absence of nanoelements and are employed to generate a propagating band within the photonic bandgap. The respective waveguides have inputs disposed on the input surfaces of the nanostructure where light propagates in a respective waveguide in total internal reflection. The respective waveguides further have outputs that have paths with curved portions located in the nanostructure and the outputs are configured normal to the concave output surface.

IPC 8 full level

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CPC (source: CN EP US)

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